Pint Size Science: 1

2015-2016 Scale-Up Program

Overview: The Science Center of Iowa's Pint Size Science program provides a platform for young children ages 3 to 5 to explore science in a highly-engaging, interactive, and safe manner.

Grade Levels: Pre-K and Kindergarten (Ages 3-5)

Program Summary

JD Chesloff, chairman of the Massachusetts Board of Early Education and Care notes, "The link between early childhood and STEM is indisputable. Early exposure to STEM—whether it be in school, at a museum, a library, or just engaging in the natural trial and error of play—supports children's overall academic growth, develops early critical thinking and reasoning skills, and enhances later interest in STEM study and careers."

Pint Size Science introduces children to STEM topics through discovery learning. Using a hands-on approach that engages and inspires young minds to explore scientific phenomena, the program works to not only build science understanding but also respond to the ever-changing interests and abilities of children.

Pint Size Science introduces STEM topics by using concepts that emphasize the identification and basic understanding of earth, life, physical, and space sciences. The topics are introduced in these four curriculum modules:

- "Science Sprouts" serves as an introduction to the field of science;
- "Gizmos & Gadgets" helps children investigate how applying technology makes work and play easier for us;
- "Mini Meteorologists" focuses on the weather happening around us;
- And, "Insect Investigators" develops skills in sorting and classifying as children observe and compare features of insects.

Additionally, each Pint Size Science session includes a literacy component, where every class reads a book that pulls together the most important ideas of the STEM topic being discussed. Fundamental mathematical skills are also reinforced through activities, including counting, numbering, and recognizing geometrical shapes.

The professional development component of Pint Size Science shows educators how to use their knowledge of the children's backgrounds and interests to help them develop inquiry skills for exploring basic phenomena and materials of the world. The program helps educators prepare a learning environment that creates experiences where children engage in explorations and investigations.

Project Description/Objectives

- Ignite student interest in STEM by helping them discover science in the world around them through interactive, hands-on activities;
- Expand the toolkit of instructional methods available to Early Childhood educators across the state;
- And, provide for "out-of-the-box" implementation by supplying educators with a complete set of curricula, activities, and program supplies.

What does the project provide?

- A kit for all four curriculum modules including lesson plans with opportunities for adaptations to the needs of local audiences;
- All necessary supplies and materials to conduct each program module;
- And, professional development training on inquiry and project-based learning.

What is required by the applicant in order to implement this program?

Applicant must participate in a day of professional development and a walkthrough of each classroom curriculum module.

Website to View Program and Standards Alignment: http://www.sciowa.org/learn/pint-size-science/
Program Video: http://bit.ly/pintsizevideo

Pint Size Science: 2

2015-2016 Scale-Up Program

Overview: The Science Center of Iowa's Pint Size Science program provides a platform for young children ages 3 to 5 to explore science in a highly-engaging, interactive, and safe manner.

Grade Levels: Pre-K and Kindergarten (Ages 3-5)

Program Summary

JD Chesloff, chairman of the Massachusetts Board of Early Education and Care notes, "The link between early childhood and STEM is indisputable. Early exposure to STEM—whether it be in school, at a museum, a library, or just engaging in the natural trial and error of play—supports children's overall academic growth, develops early critical thinking and reasoning skills, and enhances later interest in STEM study and careers."

Pint Size Science: 2 expands upon the first year of themes as it introduces children to additional STEM topics through discovery learning. Using a hands-on approach that engages and inspires young minds to explore scientific phenomena, the program works to not only build science understanding but also respond to the ever-changing interests and abilities of children. Pint Size Science: 2 provides essential tools and materials to extend learning resources and promote intellectual growth.

Pint Size Science: 2 introduces new STEM topics by using concepts that emphasize the identification and basic understanding of animal classification as well as robotics and coding. The topics introduced in these two curriculum modules:

- "Classifying Creatures" teaches students to group and classify animals based on their similarities and differences;
- And, "Bits and Bots" uses robots provide students a chance to learn beginning programming and coding.

Additionally, each Pint Size Science: 2 kit includes a literacy component that pulls together the most important ideas of the STEM topic being discussed. The literacy selections provide an opportunity to develop vocabulary and language; practice skills of comprehension and give children experience with different types of books and text. Fundamental components of mathematics are reinforced through activities; including numbers and operations, measurement, special sense, patterns and data-analysis.

The professional development component of Pint Size Science: 2 shows educators how to use their knowledge of children's backgrounds and interests to help develop inquiry skills for exploring basic phenomena and materials of the world. The program helps educators prepare a learning environment that creates experiences where children engage, explore and investigate the world around them.

Project Description/Objectives

- Ignite student interest in STEM by helping them discover science in the world around them through interactive, hands-on activities;
- Expand the toolkit of instructional methods available to Early Childhood educators across the state;
- Provide for "out-of-the-box" implementation by supplying applicants with a complete set of curricula, activities, and program supplies;
- And, build a system of support for Iowa educators as they integrate STEM for Iowa's young children.

What does the project provide?

- A kit for both curriculum modules, including lesson plans with opportunities for adaptations to the needs of local audiences;
- All necessary supplies and materials to conduct each program module;
- And, professional development training to create deeper connections and instructional techniques to implement a STEM rich environment with a focus on inquiry, project-based learning, questioning, and evaluation of student learning.

What is required by applicant in order to implement this program?

Applicants must participate in a day of professional development and a walkthrough of each classroom curriculum module.

Website to View Program and Standards Alignment: http://www.sciowa.org/learn/pint-size-science/
Program Video: http://bit.ly/pintsizevideo